Amendments t th Claims

37. (Currently amended) An alloy comprising a randomized microstructure and a texture with a substantially uniform grain size; said alloy being a non-iron based alloy produced from a cast material by a method comprising the steps of:

defining equal channel angular extrusion routes for defining predetermined shear planes and crystallographic directions in the alloy;

selecting at least one route from the defined routes for plastically deforming the alloy during equal channel angular extrusion; and

subjecting the alloy to a predetermined number of passes through the selected at least one route, the resulting alloy being precipitate free ~~comprising a substantial absence of precipitates~~.

38. (Previously presented) An alloy comprising a strong texture; said alloy being a non-iron based alloy produced from a cast material by a method comprising the steps of:

defining equal channel angular extrusion routes for defining predetermined shear planes and crystallographic directions in the alloy;

selecting at least one route from the defined routes for plastically deforming the alloy during equal channel angular extrusion; and

subjecting the alloy to a predetermined number of passes through the selected at least one route, the alloy comprising uniformly distributed second-phase precipitates, the alloy having at least one type of texture present that was not present in the cast material as

originally cast, the at least one type of texture being selected from the group consisting of {111}, {140}, {120}, {130}, {123}, {133}, {252}, {216}, {223}, {205} and {146}.

39. (Currently amended) An alloy comprising substantially random textures; said alloy being a non-iron based alloy produced by a method comprising the steps of:

defining equal channel angular extrusion routes for defining predetermined shear planes and crystallographic directions in the alloy;

selecting at least one route from the defined routes for plastically deforming the alloy during equal channel angular extrusion; and

subjecting the alloy to a predetermined number of passes through the selected at least one route; the alloy comprising a fine grain size of less than about 1 micron and comprising uniformly distributed fine precipitates having an average diameter of less than 0.5 microns.

40. (Previously presented) The alloy of claim 39 wherein the alloy comprises at least one of Al, Cu, Ta, Ni, Mo, Ag, Au, and Pt.

41. (Previously presented) The alloy of claim 39 wherein the predetermined number of passes comprises at least 3 passes.

42. (Previously presented) The alloy of claim 39 wherein the alloy has an orientation distribution function (ODF) of less than 7000 mrd.

43. (Cancelled)

44. (Previously presented) The alloy of claim 37 wherein the alloy comprises at least one of Al, Cu, Ta, Ni, Mo, Ag, Au, and Pt.

45. (Previously presented) The alloy of claim 37 wherein the alloy has an orientation distribution function (ODF) of less than 7000 mrd.

46. (Previously presented) The alloy of claim 37 wherein the substantially uniform grain size is less than about 1 micron.

47. (Previously presented) The alloy of claim 37 wherein grains of substantially uniform size comprised by the alloy are equiaxed grains.

48. (Previously presented) The alloy of claim 38 wherein the uniformly distributed second-phase precipitates have a precipitate size of less than about 1 micron.

49. (Previously presented) The alloy of claim 38 wherein the uniformly distributed second-phase precipitates have an average precipitate diameter of less than 0.5 microns.

50. (Previously presented) The alloy of claim 38 wherein the uniformly distributed second-phase precipitates have an average precipitate diameter of less than 0.1 microns.

51. (Previously presented) The alloy of claim 38 wherein the predetermined number of passes comprises from 1 to 4 passes.

52. (Previously presented) The alloy of claim 38 wherein the alloy comprises at least one of Al, Cu, Ta, Ni, Mo, Ag, Au, and Pt.

53. (Previously presented) The alloy of claim 38 wherein the alloy has an orientation distribution function (ODF) of between 10,000 mrd and 20,000 mrd.

54. (Previously presented) The alloy of claim 38 wherein the alloy has an orientation distribution function (ODF) of greater than or equal to 20,000 mrd.

55. (Previously presented) The alloy of claim 38 wherein the alloy has an orientation distribution function (ODF) of from about 7,000 to about 10,000 mrd.

56. (Previously presented) The alloy of claim 37 wherein the predetermined number of passes is from 4 to 6 passes.

57. (Previously presented) The alloy of claim 37 wherein the alloy comprises Al.

58. (Previously presented) The alloy of claim 38 wherein the alloy comprises Al.

59. (Previously presented) The alloy of claim 39 wherein the alloy comprises Al.